

ABSTRACT

A method and apparatus are provided for error correction in a communication system employing Orthogonal Frequency Division Multiplexing. When a remote unit receives an OFDM symbol, a retransmission indicator bit is examined to determine whether the symbol is an original symbol or a retransmitted symbol. If it is a retransmitted symbol and the remote unit has a corresponding symbol stored in memory, then the received symbol is soft-combined with the stored symbol. Each packet in the symbol, either the received symbol if original or the soft-combined symbol if retransmitted, is examined by the remote unit. If the remote unit determines that a particular packet is intended for the remote unit, but can not determine the contents of the payload of the packet, the remote unit sends a retransmission request to the base station for retransmission of the symbol. The base station determines whether the entire symbol or merely the packet should be retransmitted, based on such considerations as the size of the packet or whether there are additional requests for the symbol. The invention allows both soft-symbol combining and Automatic Repeat Request to be used as error correction techniques.

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